

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JF02/13831

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ F15B11/16, F15B15/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ F15B11/16, F15B15/26

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Kokai Jitsuyo Shinan Koho	1971-2003	Jitsuyo Shinan Toroku Koho	1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 6-8460 U (Yutani Heavy Industries, Ltd.), 04 February, 1994 (04.02.94), Figs. 1 to 3 (Family: none)	1, 2, 4, 5
X	JP 1-103466 U (Aichi Sharyo Kabushiki Kaisha), 12 July, 1989 (12.07.89), Fig. 2 (Family: none)	1, 2, 4, 5
Y	JP 64-24163 U (Hitachi Construction Machinery Co., Ltd.), 09 February, 1989 (09.02.89), Figs. 1 to 2 (Family: none)	3

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search
03 April, 2003 (03.04.03)

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Name and mailing address of the ISA/
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 5-52302 U (Sumitomo Construction Machinery Co., Ltd.), 13 July, 1993 (13.07.93), Fig. 1 (Family: none)	6
Y	JP 53-107795 U (Hoko Kogyo Kabushiki Kaisha), 29 August, 1978 (29.08.78), Fig. 1 (Family: none)	6
A	JP 60-191584 U (Mitsubishi Motors Corp.), 19 December, 1985 (19.12.85), Figs. 1 to 3 (Family: none)	1-6